

REMARKS

Applicants have carefully studied the outstanding Office Action. The Examiner's indication that Claims 31, 32, 43, 44, 49, 50, 53-55 and 57-59 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims is gratefully acknowledged. Applicants also gratefully acknowledge the Examiner's decision not to make this Office Action final. The present response is intended to be fully responsive to all points of rejection raised in the Office Action, and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application are respectfully requested.

Claim rejections - 35 USC § 102

Claims 29, 30, 39-42, 51, 52, 56 and 60 have been rejected under 35 USC § 102(b) as being anticipated by US 5,046,491 to Derrick ("Derrick '491"). The Office Action argues that "Derrick discloses a device and method of use including a cannula having a tube 68 for capturing nasal exhalation gases, and a porous tube in the shape of a V as shown in Fig. 3 connected to inhalant gases which delivers gases to a region between the nose and mouth of the user, and a tube having nares for introduction into the nostrils of the user and connected to tubes 28 for capturing and delivering the nasal exhaled air to the gas analysis apparatus." Office Action dated October 28, 2003, p. 2.

However, Applicants respectfully submit that the Office Action's analysis of Derrick '491 is in error. Derrick '491 nowhere teaches or suggest that the porous tube in the shape of a V shown in Fig. 3 is connected to inhalant gases for delivery of these gases to a region between the nose and mouth of the user. The only specific description of any oxygen delivery

system shown in Derrick '491 is the embodiment of Fig. 4, which embodiment does not teach or suggest Applicants' claimed invention, for the reasons set forth in Applicants' prior Response.

Indeed, Derrick '491 is silent about the function of the V-shaped tube shown in Figs. 1-3. Applicants respectfully submit that the V-shaped tube is part of the exhaled breath collection system, and is used for collecting nasal exhaled gases, in the same way as tube 60 of Fig. 3 is used for collecting oral exhaled gases. This system utilizes two pairs of tubes, 28 and 68, for conveying the exhaled gases from the Derrick '491 device to the distribution and gas analysis apparatus. One of these pairs of tubes 28 are known as the nasal exhaled gas conduits, and are described in col. 5, lines 56-65 as being connected to the ends 24, 26 of the hollow body member 22, in which are mounted, according to one embodiment, a pair of nasal cannulas 20 (meaning prongs or nares) for nasal gas collection, as described in col. 5, lines 47-49. The other pair of tubes 68, are known as oral gas conduits, and are described in col. 7, lines 11-14 as being connected to the ends 64, 66 of the oral gas capture body member 60.

Fig. 3 show either oral gas conduits 68 passing through the V-shaped tube en route to the ends 64, 66 of the oral gas capture body member 60, and collecting nasal gases through the holes in the V-shaped tube, or oral gas conduits 68 passing behind the V-shaped tube en route to the ends 64, 66 of the oral gas capture body member 60. Furthermore, nasal exhaled gas conduits 28, besides being attached to the hollow body member 22, also are attached to the ends of the V-shaped tube, and thus appear to be collecting exhaled nasal gases therefrom. Thus, in either of these aspects, the V-shaped tube in Derrick '491 is utilized for collection of exhaled gases, and not for delivery of inhalant gases.

Thus, a proper reading of what Derrick '491 describes is that the inhalant gases shown in Fig. 3 are delivered to the subject in the same manner shown in the embodiment of Fig. 4, to one nostril only. This is clear from inspection of the hollow body member in Fig. 3, where there is seen an outline tube at the top edge of the member, which is an in-line continuation from the inhalant gases tube. Furthermore, unlike the exhaled gas collection conduits, which, without exception, are all connected to both sides of the device, the inhalant gases tube is shown connected only to one side of the device. Fig. 2 of Derrick '491 supports this conclusion. The side view of the device shown in Fig. 2 shows that it does not in fact have a simple V-shape, but that it protrudes outwards very significantly from the region beneath the nostrils of the subject. A tube that is so distant from the nostrils of the subject would be inefficient at inhalant gas delivery, and therefore is intended for exhaled gas collection. The arguments Applicants presented in their Response dated August 7, 2003, about Fig. 4 of Derrick '491, equally apply to the embodiment of Fig. 3 of Derrick '491, and these arguments are incorporated in this Response also.

For the reasons set forth herein, Applicants submit that Derrick '491 does not teach or suggest that the porous tube in the shape of a V in Fig. 3 is connected to inhalant gases for delivering gases to a region between the nose and mouth of the user.

In contrast to the device described by Derrick '491, Claim 29 of the present application recites:

“A cannula for the collection of exhaled gases from a patient having nostrils, and for the supply of oxygen to the patient, comprising:

a tube having at least two exhaled gas inlets for the collection of said exhaled gases from the patient;

at least one oxygen delivery tube configured to be located near the nostrils of the patient; and

at least two oxygen outlets associated with said at least one oxygen delivery tube;

said cannula being configured such that **said oxygen outlets are disposed generally symmetrically relative to the nostrils of the patient**, such that said oxygen flows from said at least one oxygen delivery tube through said oxygen outlets into the region of **both** of the nostrils of the patient, said oxygen outlets being such as to provide an oxygen stream in the region of the nostrils **having a force sufficiently low that exhaled gases collected from said nostrils are generally undiluted by said oxygen**, at least said at least two exhaled gas inlets being embodied in **a pair of nasal prongs.**" (Emphasis added.)

Derrick '491 does not teach or suggest the combination of all five elements of Claim 29 of the present application, outlined above in bold type. For these reasons, Applicants therefore respectfully submit that Claim 29 defines patentable subject matter over Derrick '491. Applicants also respectfully submit that for the same reasons Claim 41, being a method claim with similar limitations, also defines patentable subject matter over Derrick '491. Withdrawal of the rejection applied to Claims 29, 30, 39-42, 51, 52, 56 and 60 under 35 U.S.C. 102(b) as anticipated by Derrick '491 is respectfully requested.

Claim rejections - 35 USC § 103(a)

Claims 33-36 and 45-48 have been rejected under 35 U.S.C. 103 (a) as being unpatentable over Derrick '491 in view of U.S. Patent 5,113,857 to Dickerman et al. ("Dickerman '857"). The Office Action argues that: "Derrick ['491] discloses the invention as claimed with the exception of the filter in one of the inlets. Dickerman ['857] discloses that it was known to provide filters in the oxygen delivery line. It would have been obvious to place a filter in the oxygen delivery line in order to ensure breathing gas free from contaminants....." Office Action dated October 28, 2003, p. 5.

The deficiencies of the primary references, Derrick '491, have been set forth herein. Dickerman '857 does not cure these deficiencies. For these reasons, Applicants respectfully submit that Claims 33-36 and 45-48 define patentable subject matter over, and are not rendered obvious in the light of, Derrick '491 and Dickerman '857. Withdrawal of the rejection applied to Claims 33-36 and 45-48 under 35 U.S.C. 103 as unpatentable over Derrick '491 in view of Dickerman '857 is respectfully requested.


Appln. No. 10/033,387
Amendment dated February 27, 2004
Reply to Office Action of October 28, 2003
Attorney Docket No. 4026-4005US1

CONCLUSION

In light of the foregoing, Applicants respectfully submit that Claims 29-60 define patentable subject matter over the art of record and are in condition for allowance. An early allowance of all claims is earnestly solicited.

Respectfully submitted,

Dated: February 27, 2004



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